

I claim:

5 1. A formulation for controlling a lice infestation in a human comprising as an active ingredient a spinosyn, or a physiologically acceptable derivative or salt thereof, and a physiologically acceptable carrier.

10 ~~2. A formulation of Claim 1 that is a hair care formulation.~~

15 ~~3~~ A pediculicidal shampoo comprising:

a (a) from about 0.1% to about 30% of a spinosyn, or a physiologically acceptable ^{tetracycline-*d*-dimethyl} derivative or salt thereof;

(b) from about 5% to about 30% of a synthetic surfactant;

(c) from about 1% to about 7% of an amide;
and

(d) water.

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4. A shampoo of Claim ¹3 wherein the synthetic
a surfactant is anionic, amphoteric, cationic, zwitterionic,
or non-ionic, or a mixture thereof.

5 ³
5. A shampoo of Claim ²4 wherein the amide is
a coconut monoethanolamide ^{or} coconut diethanolamide or a
mixture thereof.

10 ⁴
6. A shampoo of Claim ²4 additionally comprising
from about 1% to about 10% of a non-volatile silicone
material.

15 ⁵
7. A shampoo of Claim ⁴6 wherein the non-volatile
a silicone is a polyalkyl siloxane, polyalkylaryl siloxane ^{or}
polyether siloxane co-polymer, or a mixture thereof, whose
viscosity is from about 100 centipoise to about 150,000,000
centipoise at 25°.

20 ⁶
8. A shampoo of Claim ⁵7 additionally comprising
from about 0.5% to about 5% of a suspending agent selected
from the group consisting of crystalline amphiphilic
materials having needle-like or platelet structures,

a polymeric materials, clays, ^{and} fumed metal oxides, ^{or a} and mixtures thereof.

5 9. A shampoo of Claim ⁶ wherein the suspending agent is a crystalline amphiphilic material selected from the group consisting of long chain C₁₆-C₂₂ acyl derivatives ^{and} long chain C₁₆-C₂₂ alkanolamides of fatty acids, ^{or a} and mixtures thereof.

10 10. A shampoo of Claim ⁷ wherein the suspending agent is an ethylene glycol diester.

15 11. A shampoo of Claim ² wherein the amount of a spinosyn, or ^{tetracycline N-demethyl} derivative or salt thereof, is at a level from about 0.25% to about 1.5%.

20 12. A method for controlling a lice infestation in a human comprising topically administering a ~~formulation~~ of Claim 1 to the human.

11 13. The method of Claim ^a 12 wherein the lice infestation is *Pediculus humanus capitis*.

¹²
~~14~~ The method of Claim ¹⁰~~12~~ wherein the lice infestation is *Pediculus humanus humanus*.

¹³
~~15~~ The method of Claim ¹⁰~~12~~ wherein the lice infestation is *Pthirus pubis*.

¹⁴
~~16~~ A method for treating human hair to kill and facilitate removal of lice and their eggs comprising the steps of:

(a) applying from about 10 g to about 30 g of a formulation comprising a spinosyn, or a ^{tetracyclic N-dimethyl} physiologically acceptable derivative or salt thereof, and a physiologically acceptable carrier to wet hair;

(b) working the formulation through the hair and scalp;

(c) leaving the formulation on the hair and scalp for about 6-10 minutes;

(d) removing the formulation from the hair by rinsing, with water.